5,655,081 - 5,655,081

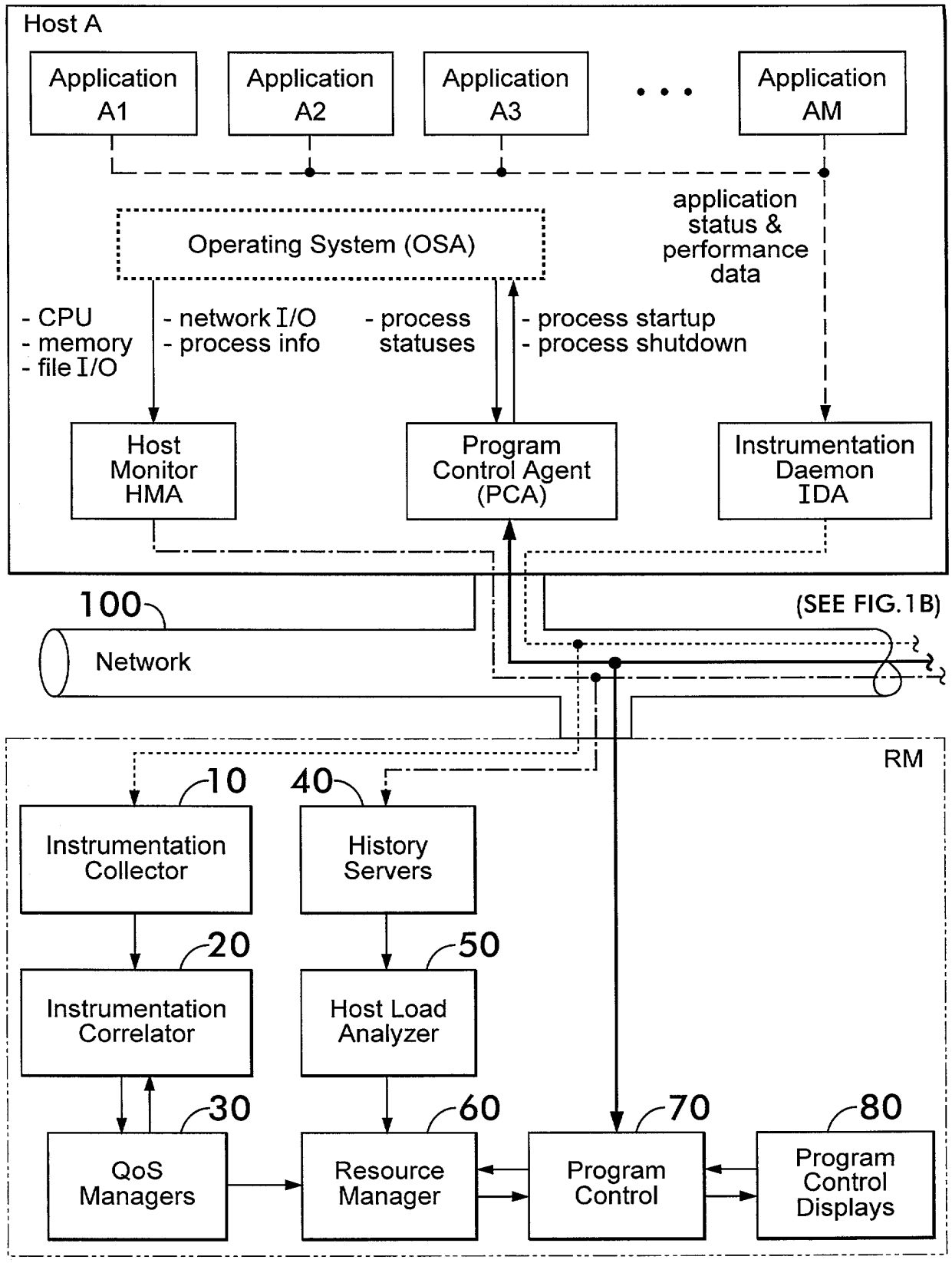
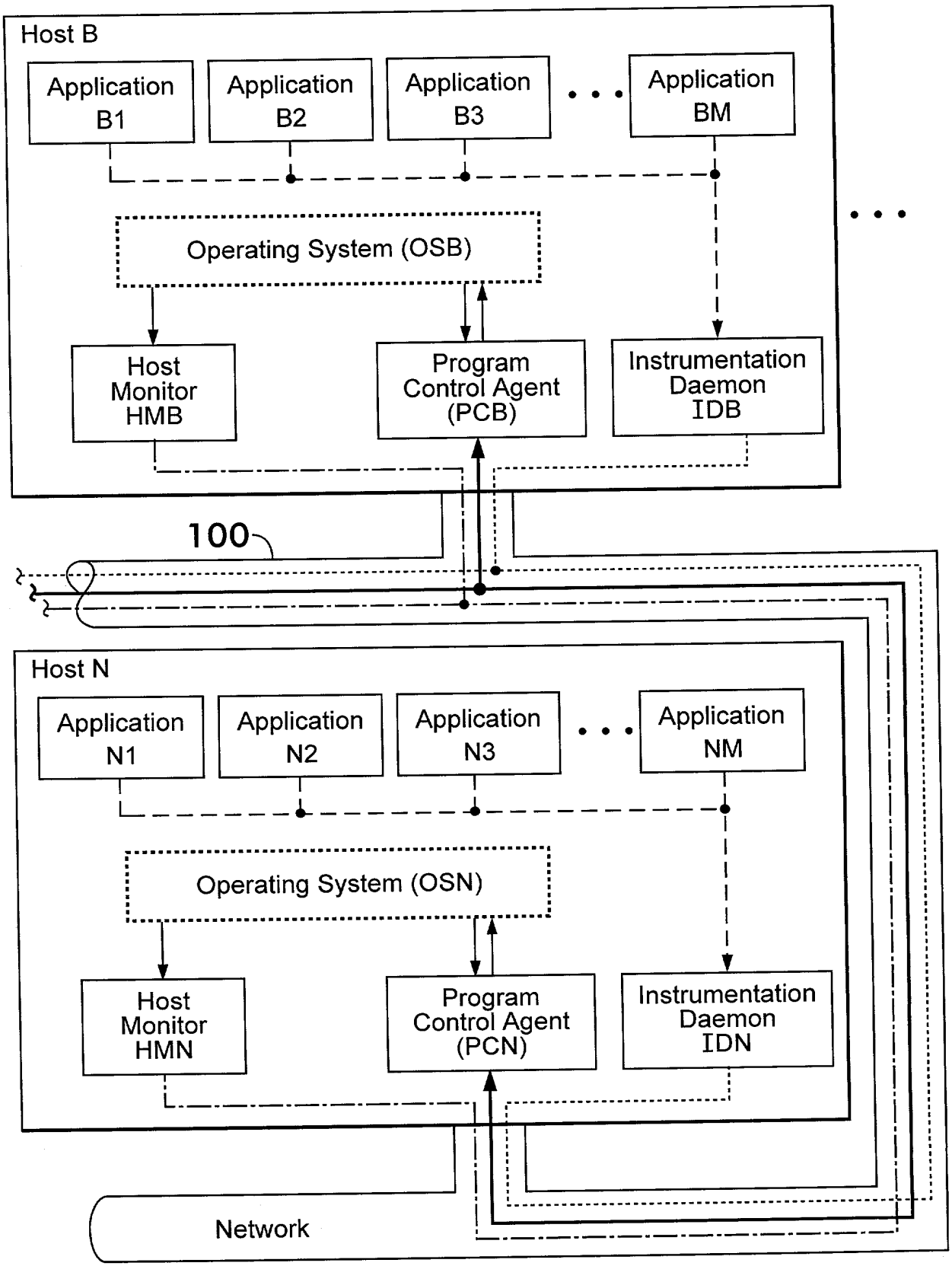


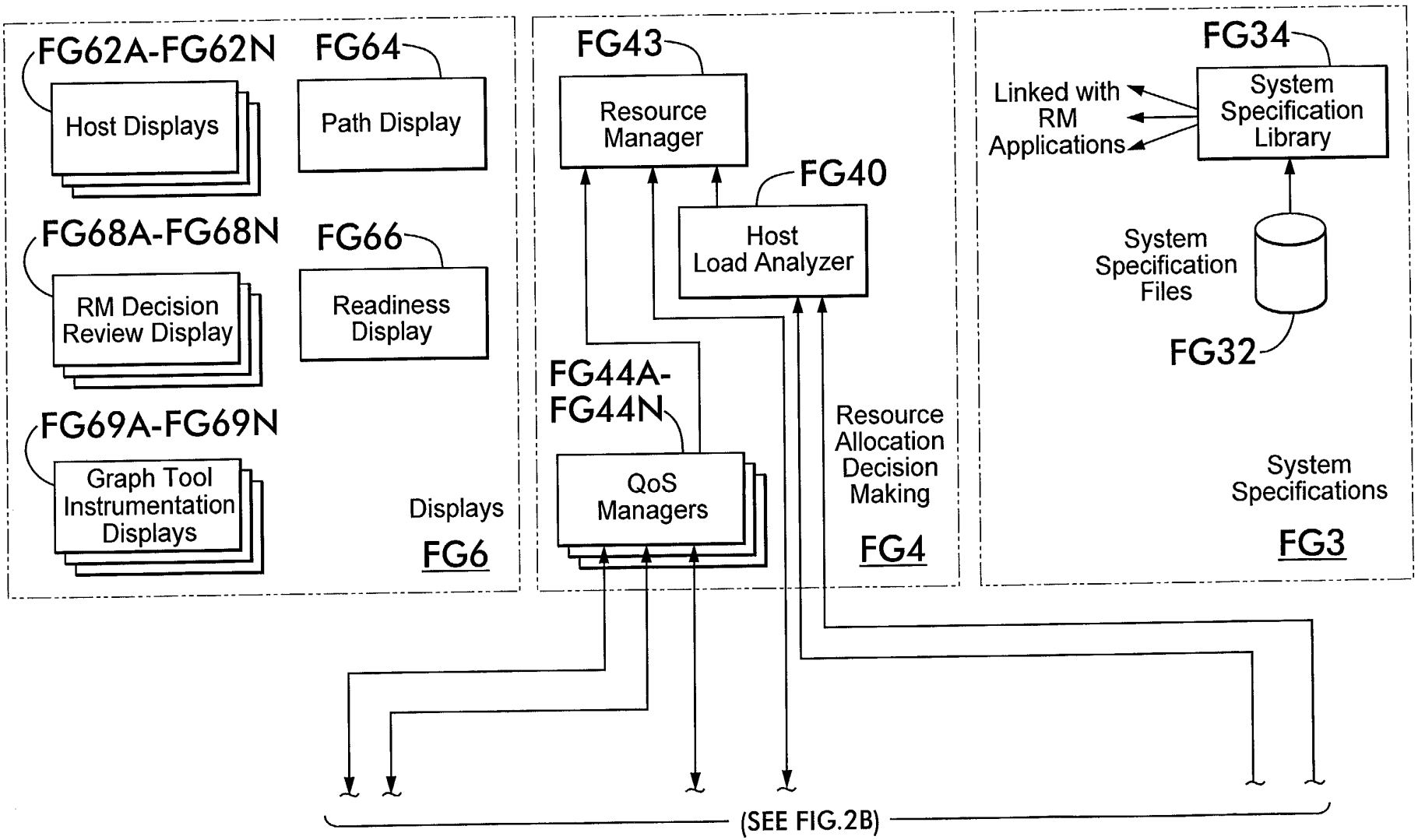
FIG. IA

FIG.1B


Host B
Application B1
Application B2
Application B3
Application BM
Operating System (OSB)
Host Monitor HMB
Program Control Agent (PCB)
Instrumentation Daemon IDB
100
Host N
Application N1
Application N2
Application N3
Application NM
Operating System (OSN)
Host Monitor HMN
Program Control Agent (PCN)
Instrumentation Daemon IDN
Network

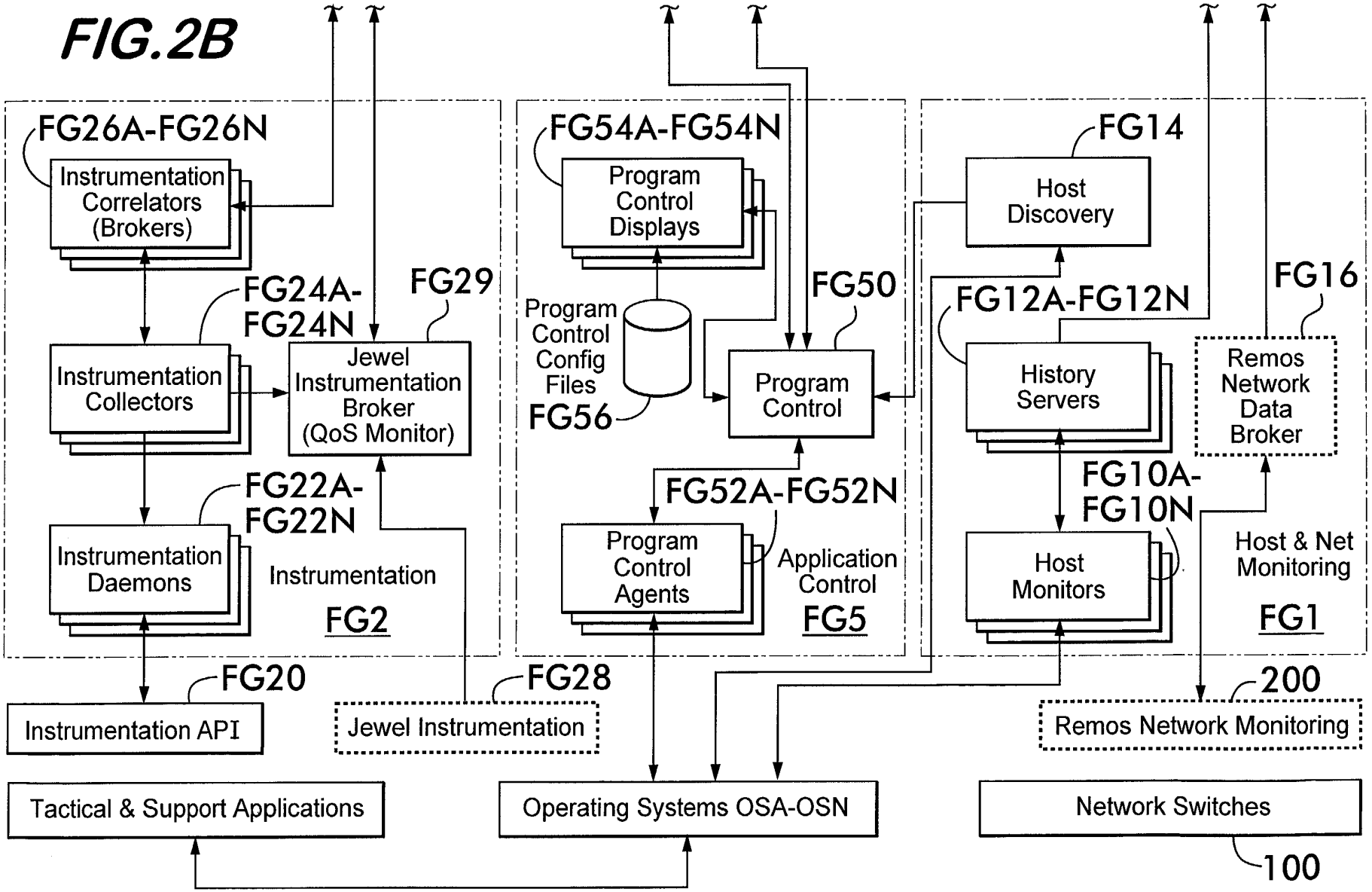
FG6T60 "528h9860

FIG.2A



FG6160-528h9860

FIG.2B



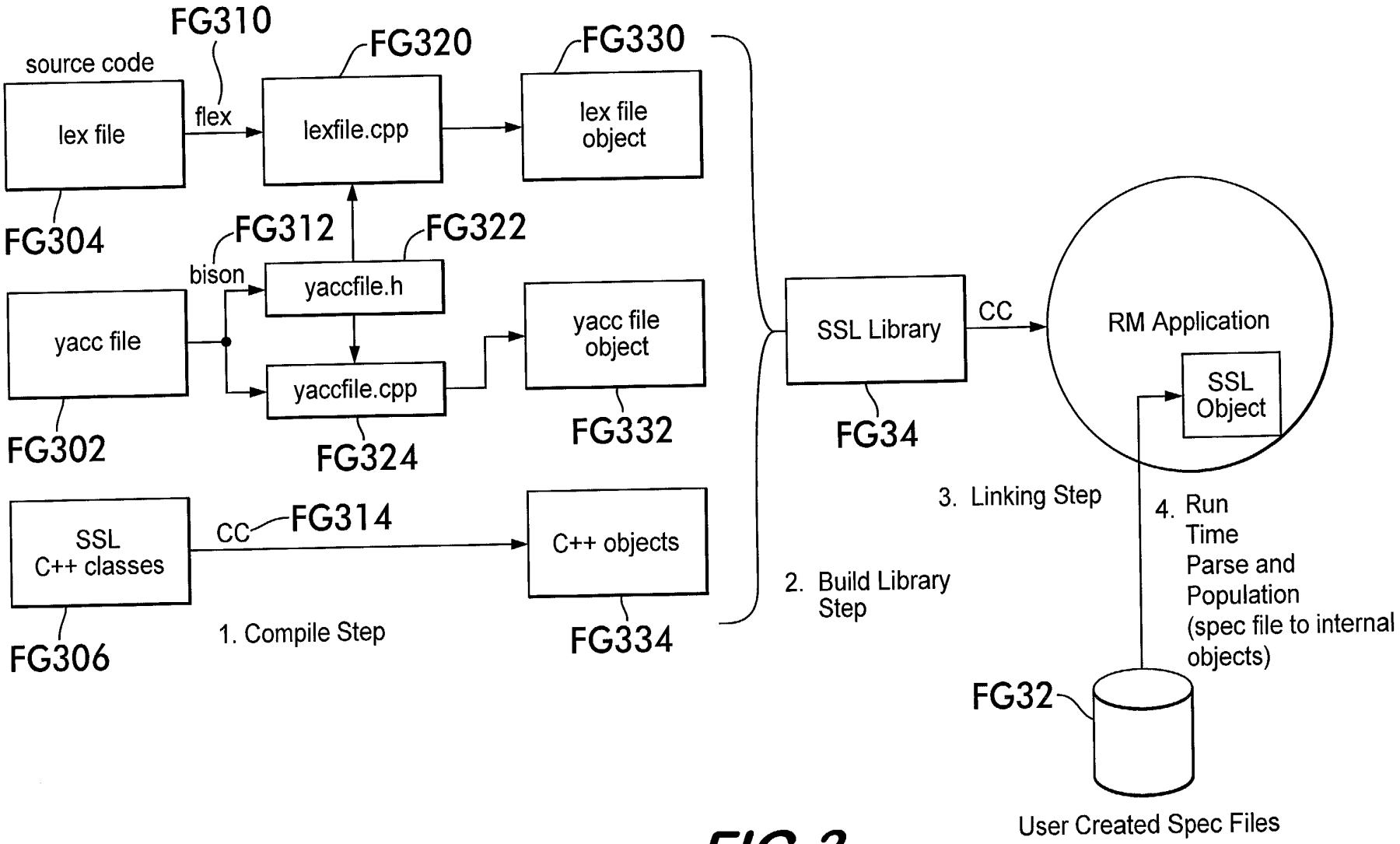

FG310
source code
lex file
flex
FG320
lexfile.cpp
FG330
lex file object
FG304
FG312
FG322
bison
yaccfile.h
yacc file
yacc file object
yaccfile.cpp
FG302
FG324
FG332
SSL C++ classes
CC
FG314
C++ objects
1. Compile Step
FG306
FG334
SSL Library
CC
RM Application
SSL Object
FG34
3. Linking Step
4. Run Time Parse and Population (spec file to internal objects)
2. Build Library Step
FG32
User Created Spec Files

FIG.3

FIG.4

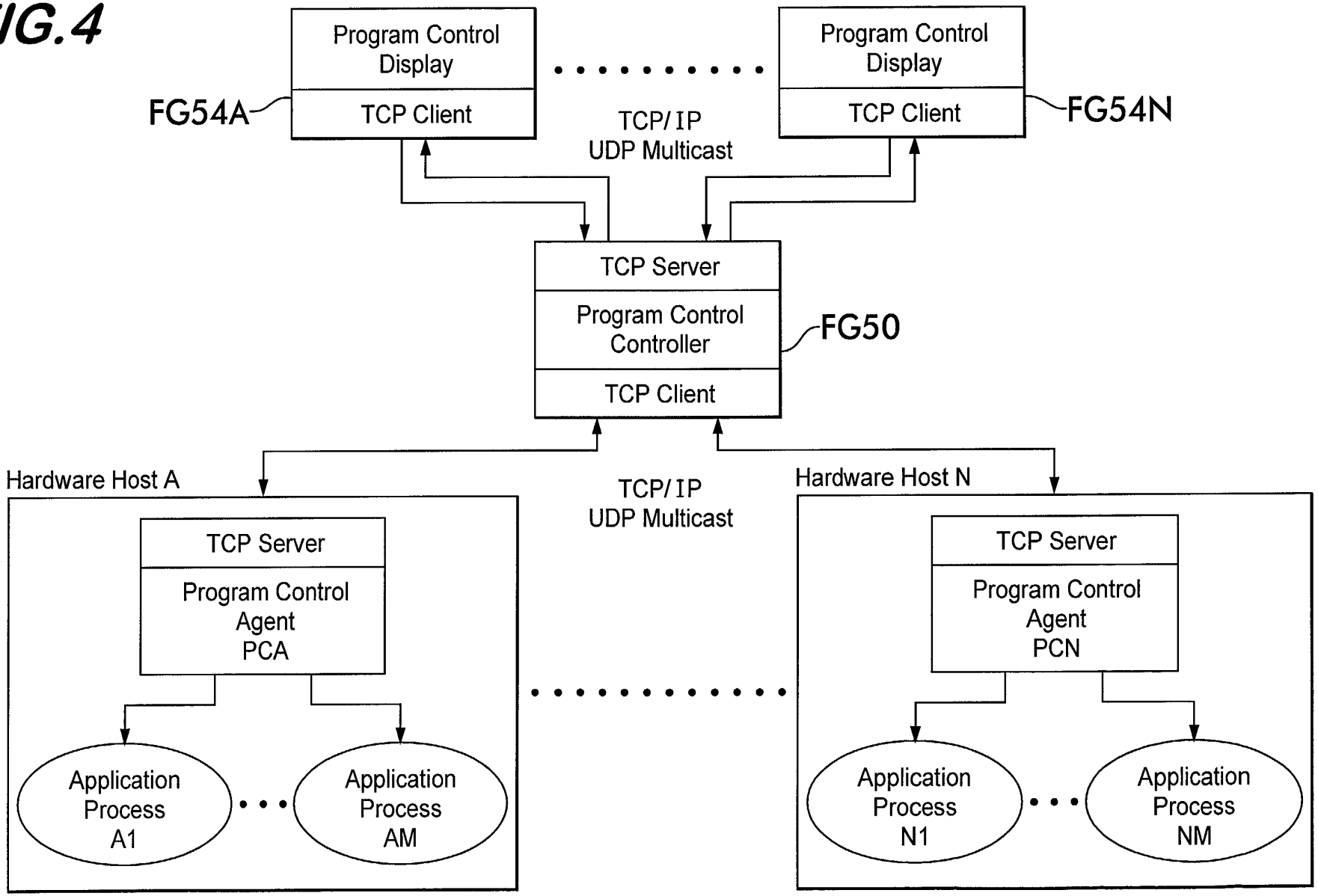
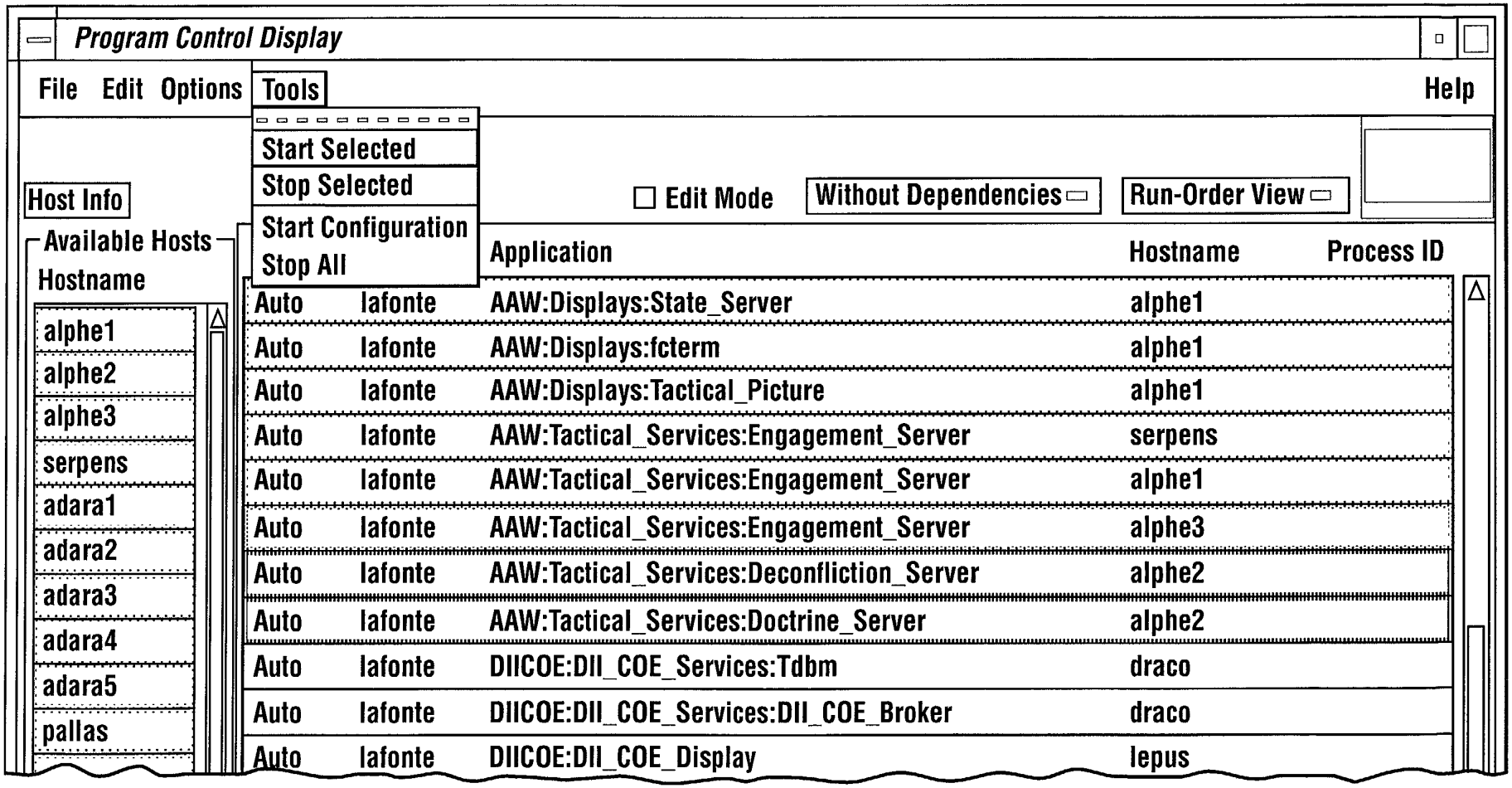

Program Control Display
TCP Client
FG54A
Program Control Display
TCP Client
FG54N
TCP/IP UDP Multicast
TCP Server
Program Control Controller
TCP Client
FG50
Hardware Host A
TCP/IP UDP Multicast
Hardware Host N
TCP Server
Program Control Agent PCA
Application Process A1
Application Process AM
TCP Server
Program Control Agent PCN
Application Process N1
Application Process NM

FIG.5A



(SEE FIG.5B)

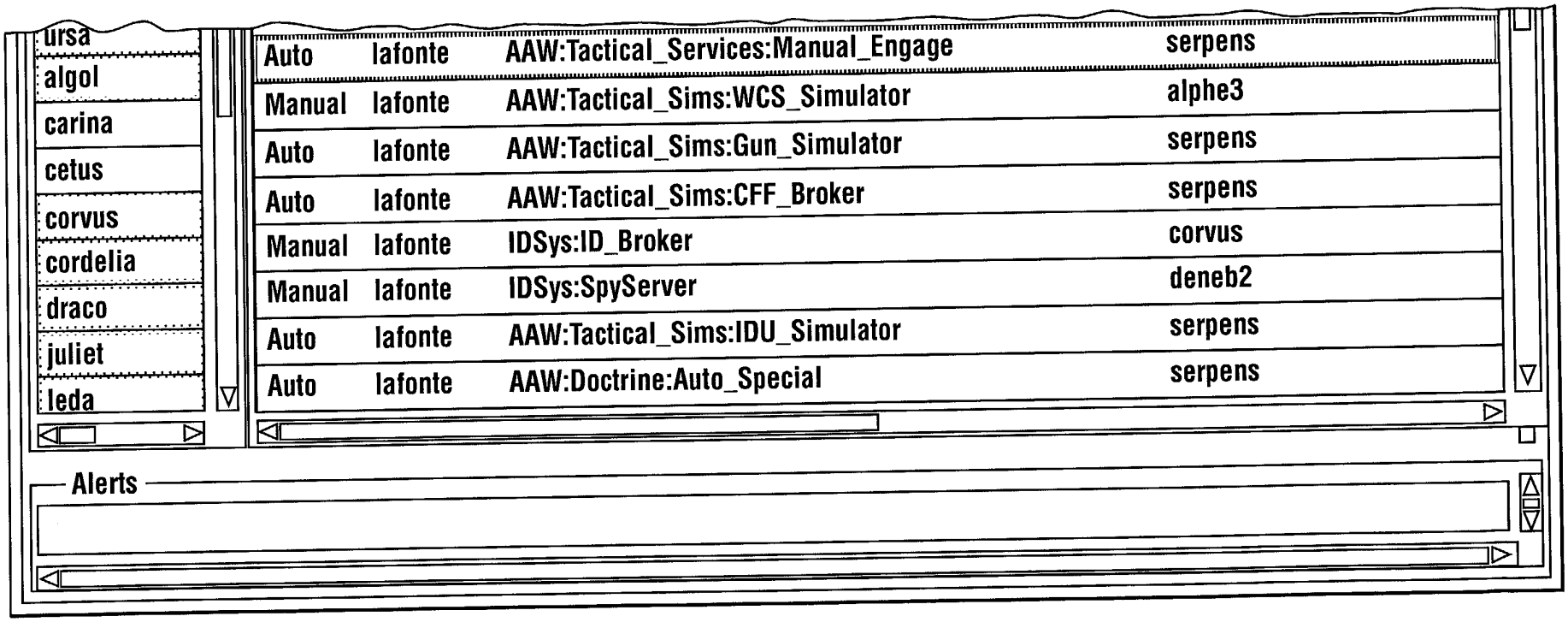
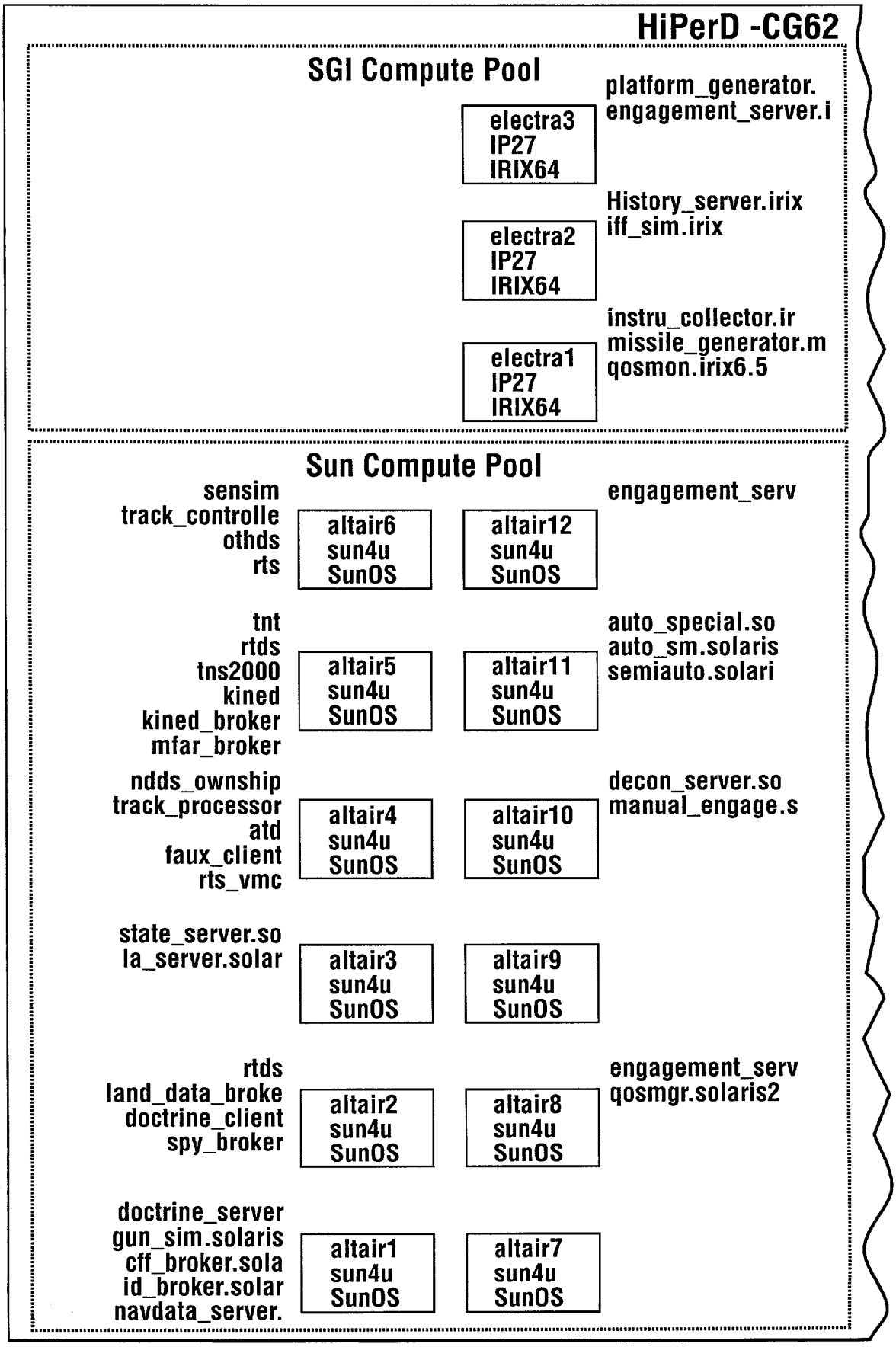

ursa
algol
carina
cetus
corvus
cordelia
draco
juliet
leda
Auto lafonte AAW:Tactical_Services:Manual_Engage serpens
Manual lafonte AAW:Tactical_Sims:WCS_Simulator alphe3
Auto lafonte AAW:Tactical_Sims:Gun_Simulator serpens
Auto lafonte AAW:Tactical_Sims:CFF_Broker serpens
Manual lafonte IDSys:ID_Broker corvus
Manual lafonte IDSys:SpyServer deneb2
Auto lafonte AAW:Tactical_Sims:IDU_Simulator serpens
Auto lafonte AAW:Doctrine:Auto_Special serpens
Alerts

FIG.5B

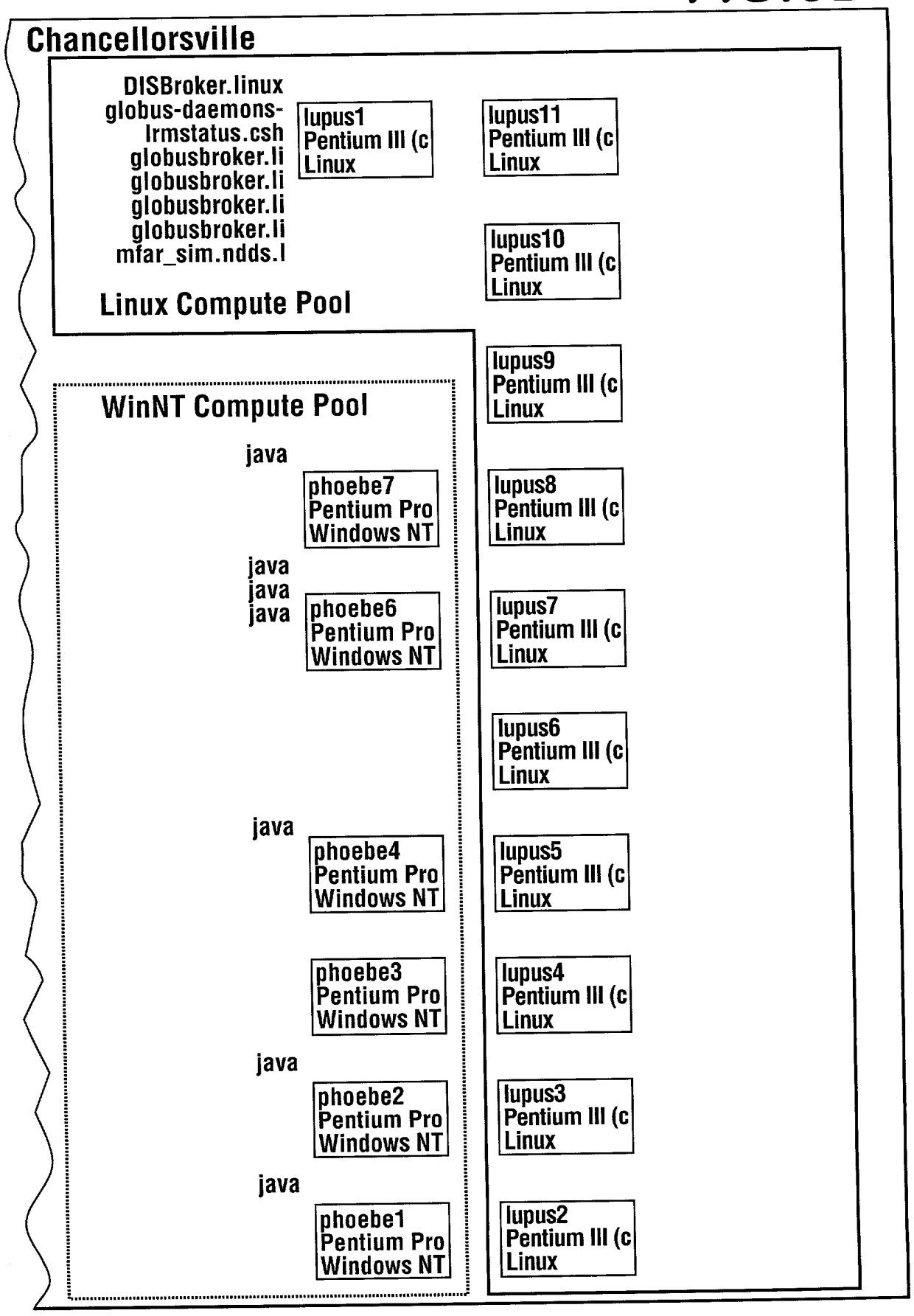
FIG. 6A

(SEE FIG.6B)



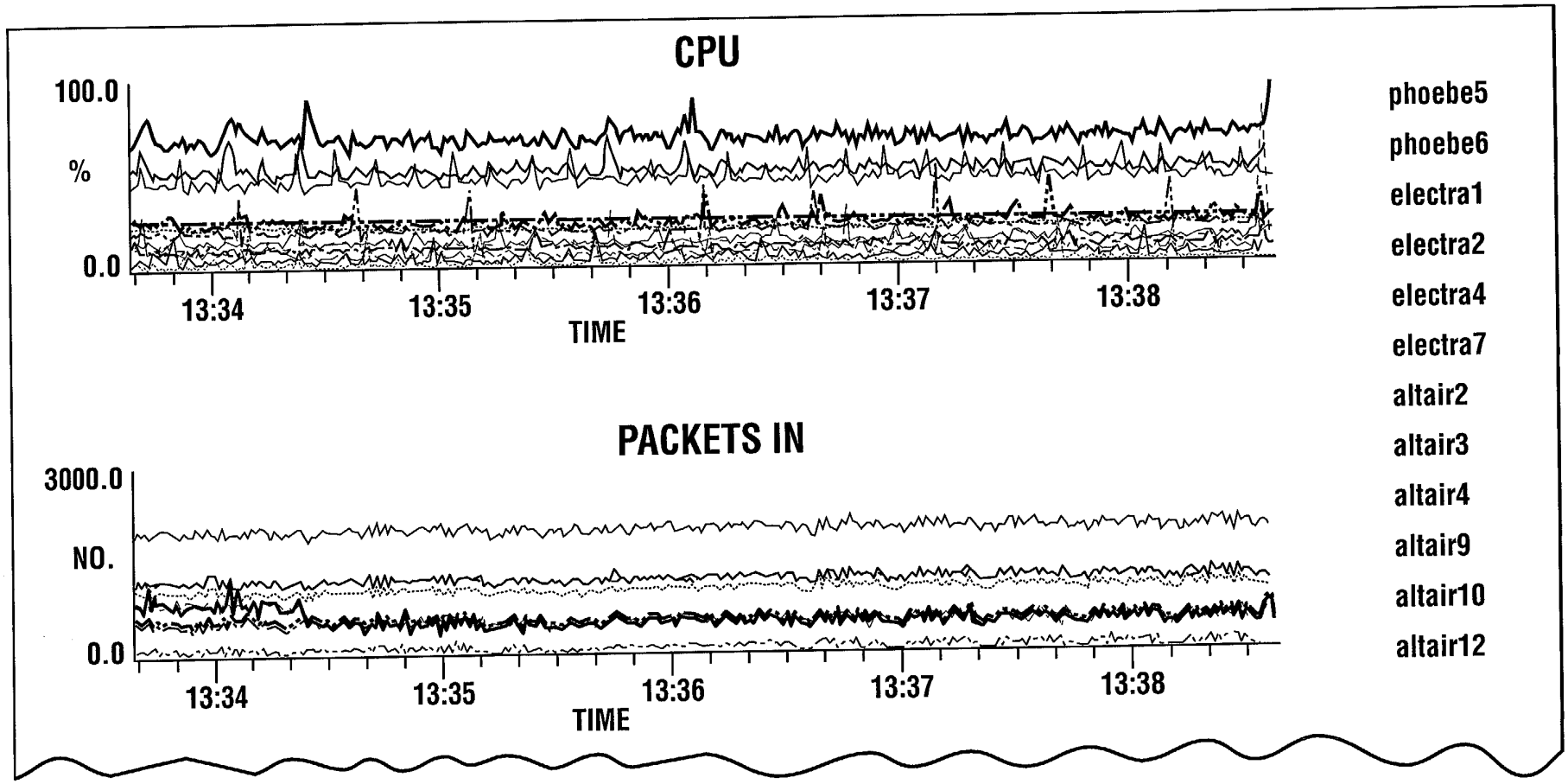
US 6,353,898 B1

FIG.6B


Chancellorsville
DISBroker.linux
globus-daemons-
lrmstatus.csh
globusbroker.li
globusbroker.li
globusbroker.li
globusbroker.li
mfar_sim.ndds.l
Linux Compute Pool
WinNT Compute Pool
java
java
java
java
java
java
lupus1 Pentium III (c Linux
lupus11 Pentium III (c Linux
lupus10 Pentium III (c Linux
lupus9 Pentium III (c Linux
lupus8 Pentium III (c Linux
lupus7 Pentium III (c Linux
lupus6 Pentium III (c Linux
lupus5 Pentium III (c Linux
lupus4 Pentium III (c Linux
lupus3 Pentium III (c Linux
lupus2 Pentium III (c Linux
phoebe7 Pentium Pro Windows NT
phoebe6 Pentium Pro Windows NT
phoebe4 Pentium Pro Windows NT
phoebe3 Pentium Pro Windows NT
phoebe2 Pentium Pro Windows NT
phoebe1 Pentium Pro Windows NT

T06T60"529h9860

FIG. 7A



(SEE FIG. 7B)

T0676D" 523h9860

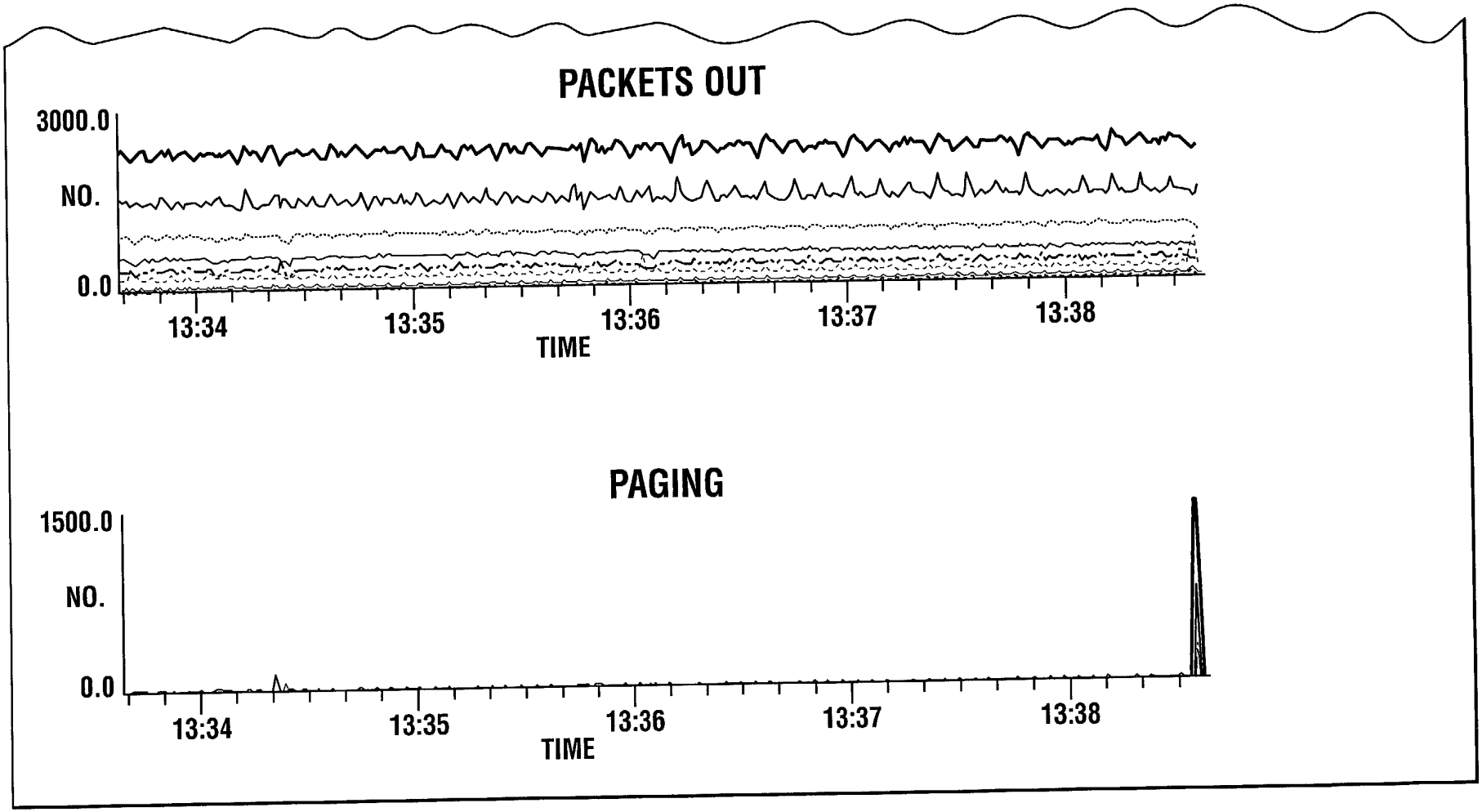
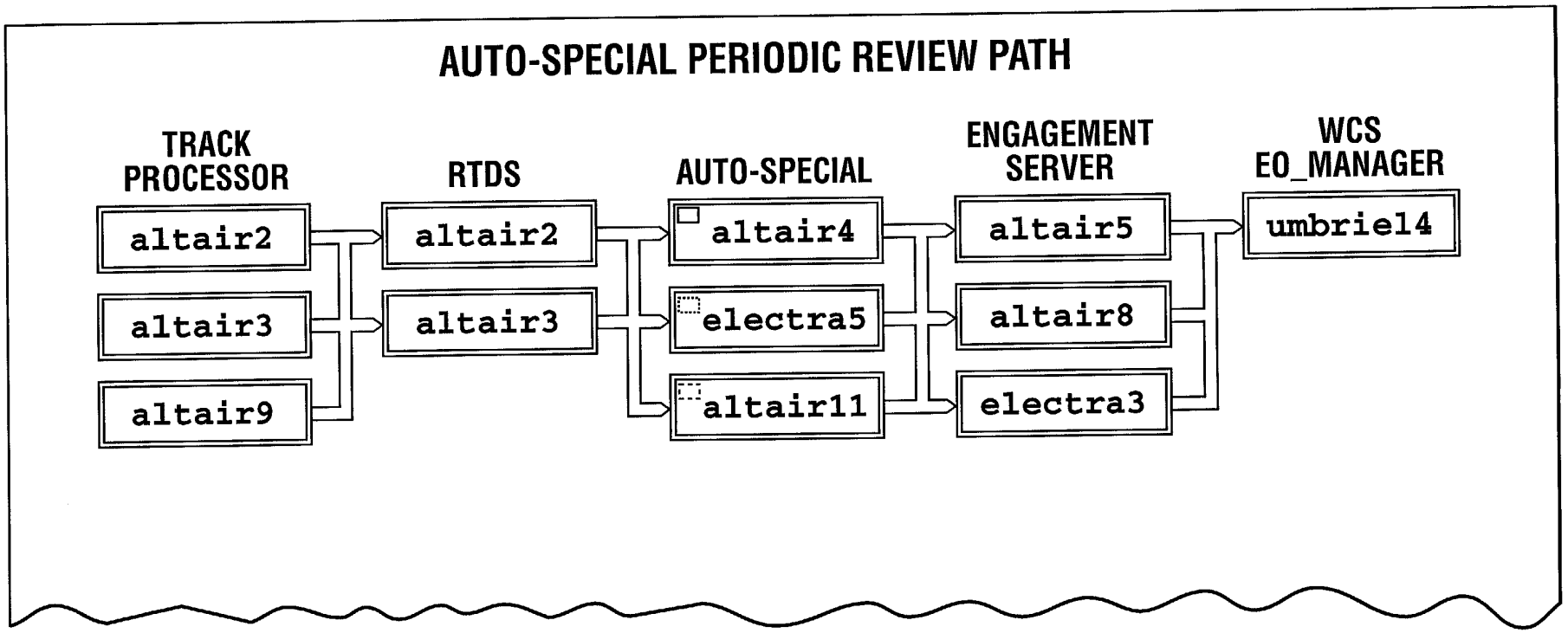


FIG. 7B

F06F60" 529h9860

FIG.8A



(SEE FIG.8B)

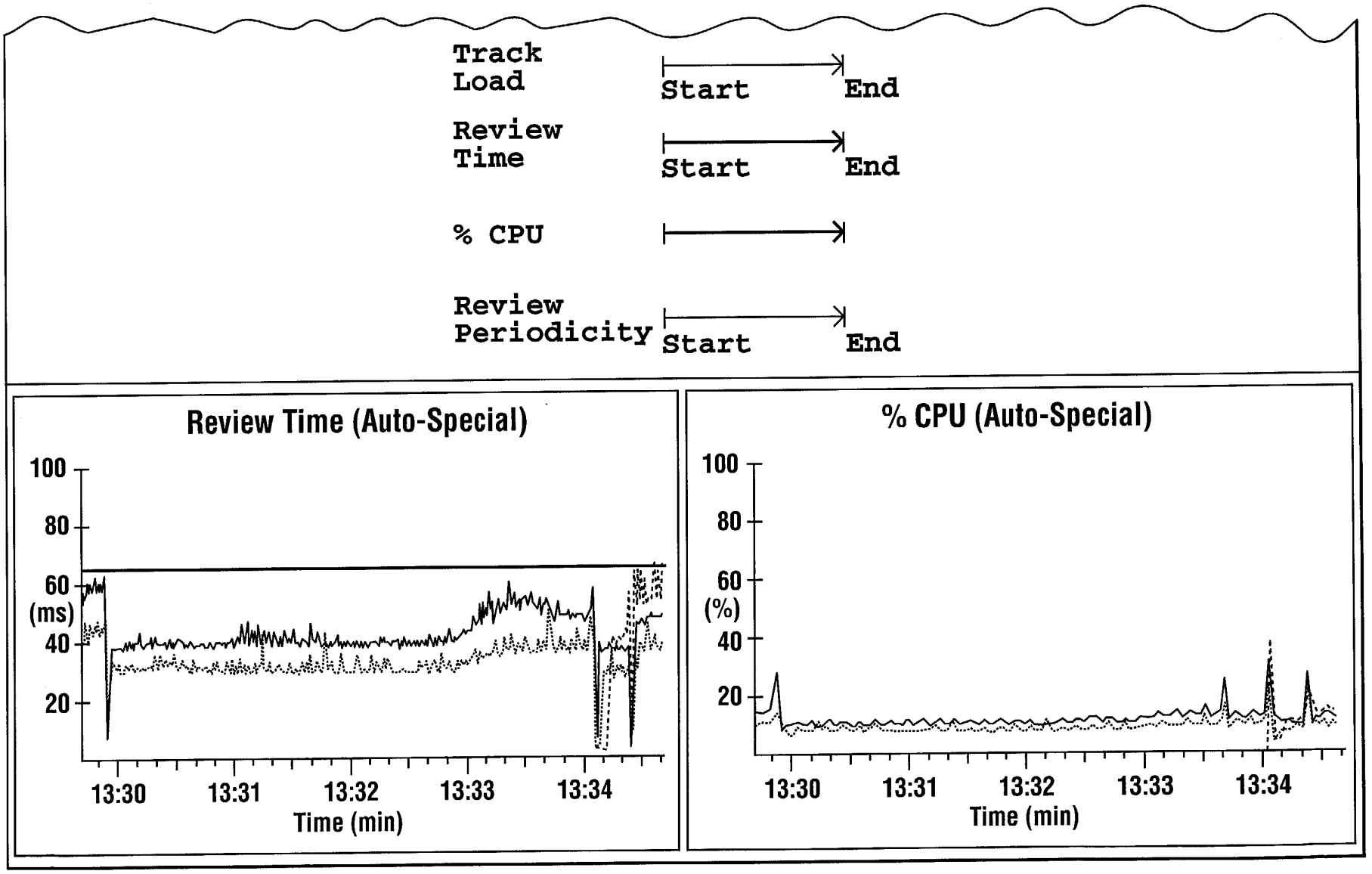
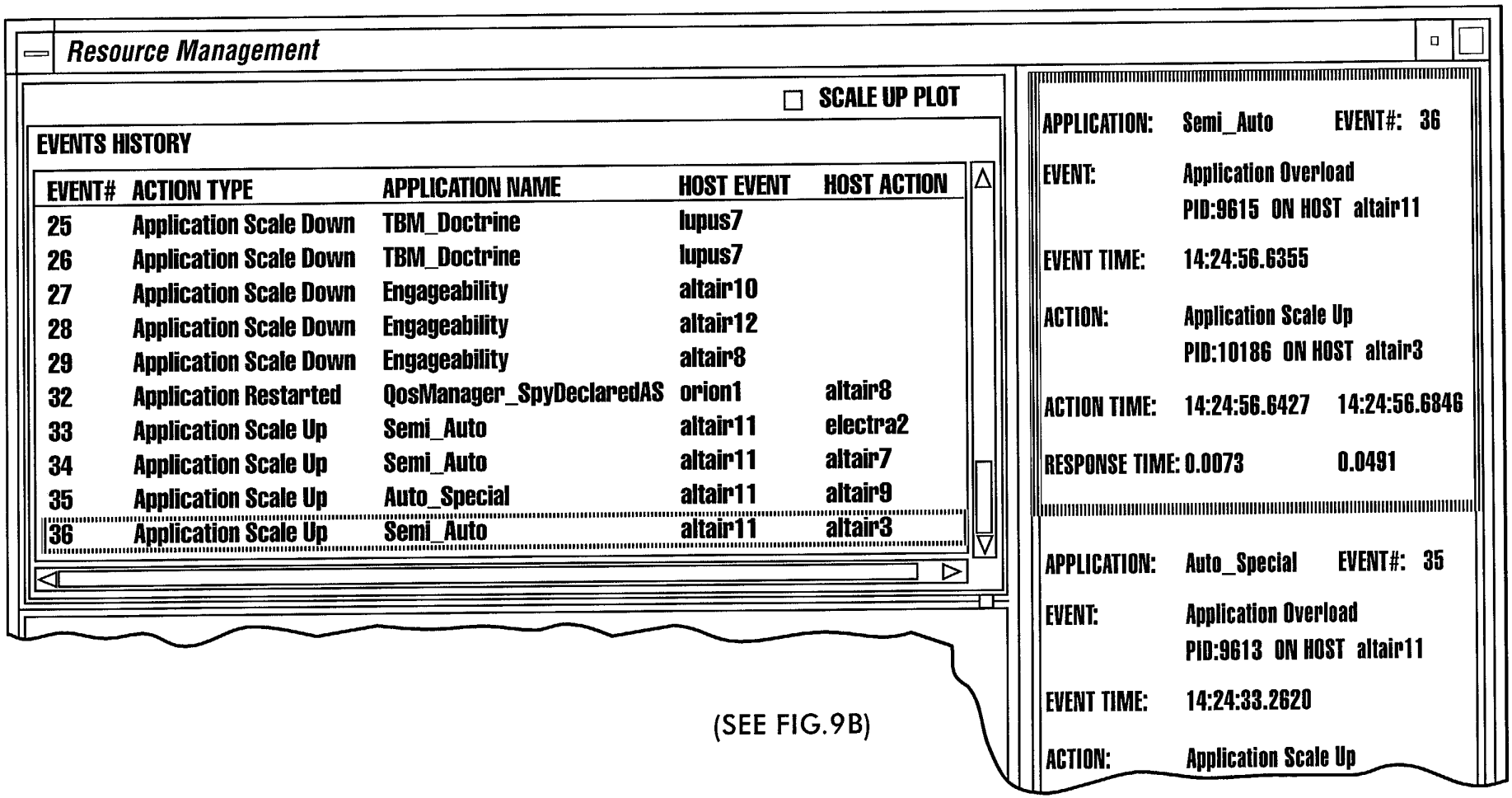

Track Load
Start
End
Review Time
Start
End
% CPU
Review Periodicity
Start
End
Review Time (Auto-Special)
100
80
60
(ms)
40
20
13:30
13:31
13:32
13:33
13:34
Time (min)
% CPU (Auto-Special)
100
80
60
(%)
40
20
13:30
13:31
13:32
13:33
13:34
Time (min)

FIG.8B

FIG.9A



(SEE FIG.9B)

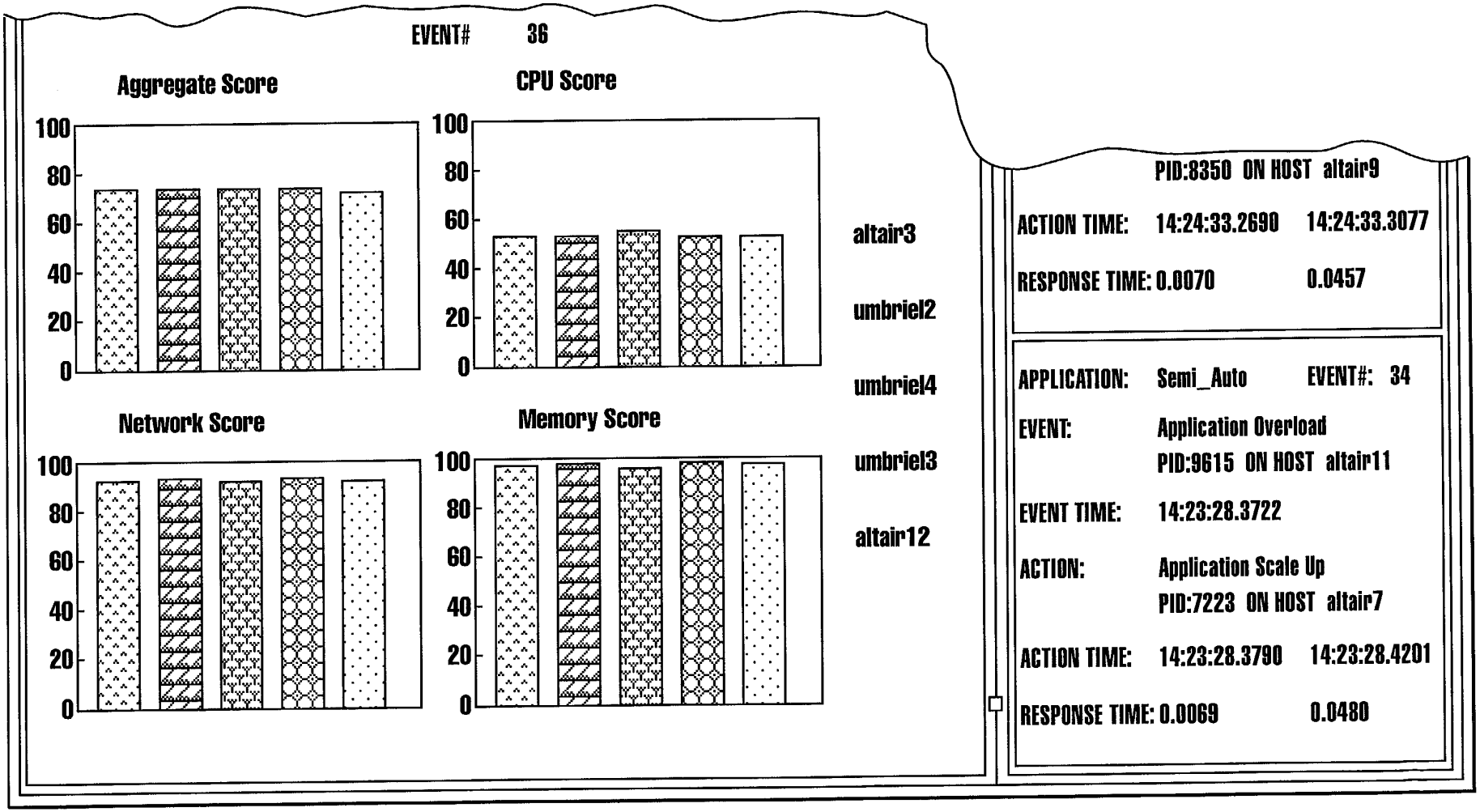
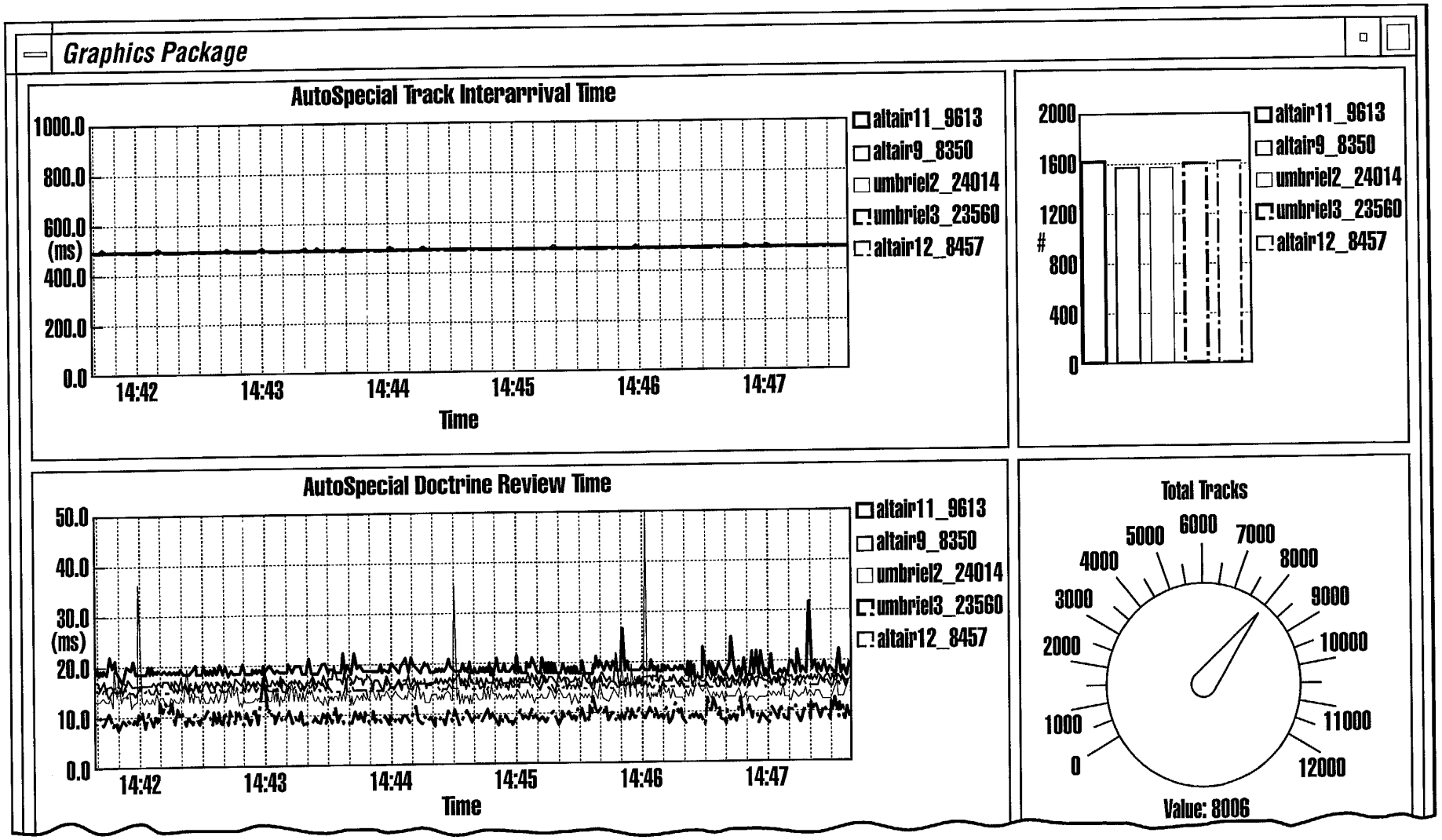

EVENT# 36
Aggregate Score
CPU Score
Network Score
Memory Score
100
80
60
40
20
0
altair3
umbriel2
umbriel4
umbriel3
altair12
PID:8350 ON HOST altair9
ACTION TIME: 14:24:33.2690 14:24:33.3077
RESPONSE TIME: 0.0070 0.0457
APPLICATION: Semi_Auto EVENT#: 34
EVENT: Application Overload
PID:9615 ON HOST altair11
EVENT TIME: 14:23:28.3722
ACTION: Application Scale Up
PID:7223 ON HOST altair7
ACTION TIME: 14:23:28.3790 14:23:28.4201
RESPONSE TIME: 0.0069 0.0480

FIG.9B

FIG.10A



(SEE FIG.10B)

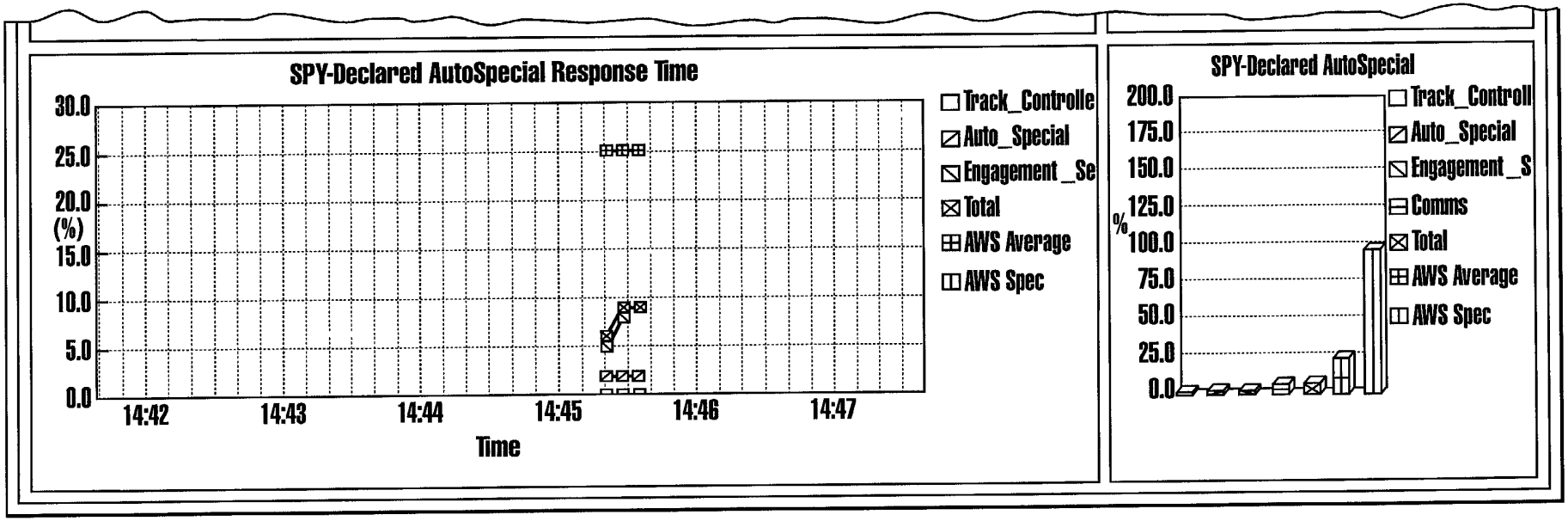
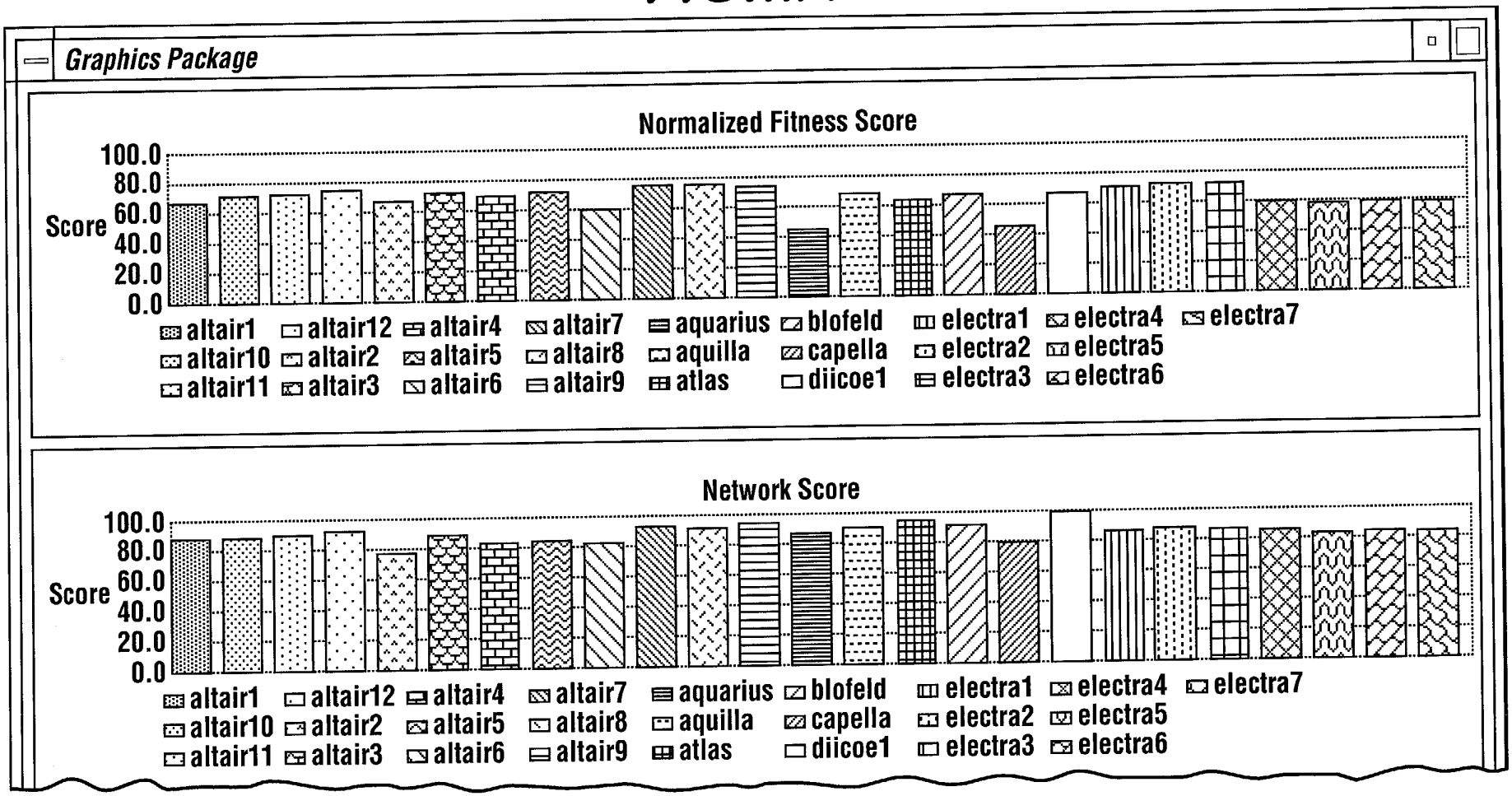

SPY-Declared AutoSpecial Response Time
30.0
25.0
20.0
(%)
15.0
10.0
5.0
0.0
14:42
14:43
14:44
14:45
14:46
14:47
Time
Track_Controlle
Auto_Special
Engagement _Se
Total
AWS Average
AWS Spec
SPY-Declared AutoSpecial
200.0
175.0
150.0
125.0
%
100.0
75.0
50.0
25.0
0.0
Track_Controll
Auto_Special
Engagement _S
Comms
Total
AWS Average
AWS Spec

FIG.10B

T061760" 5288960

FIG. IIA



(SEE FIG. 11B)

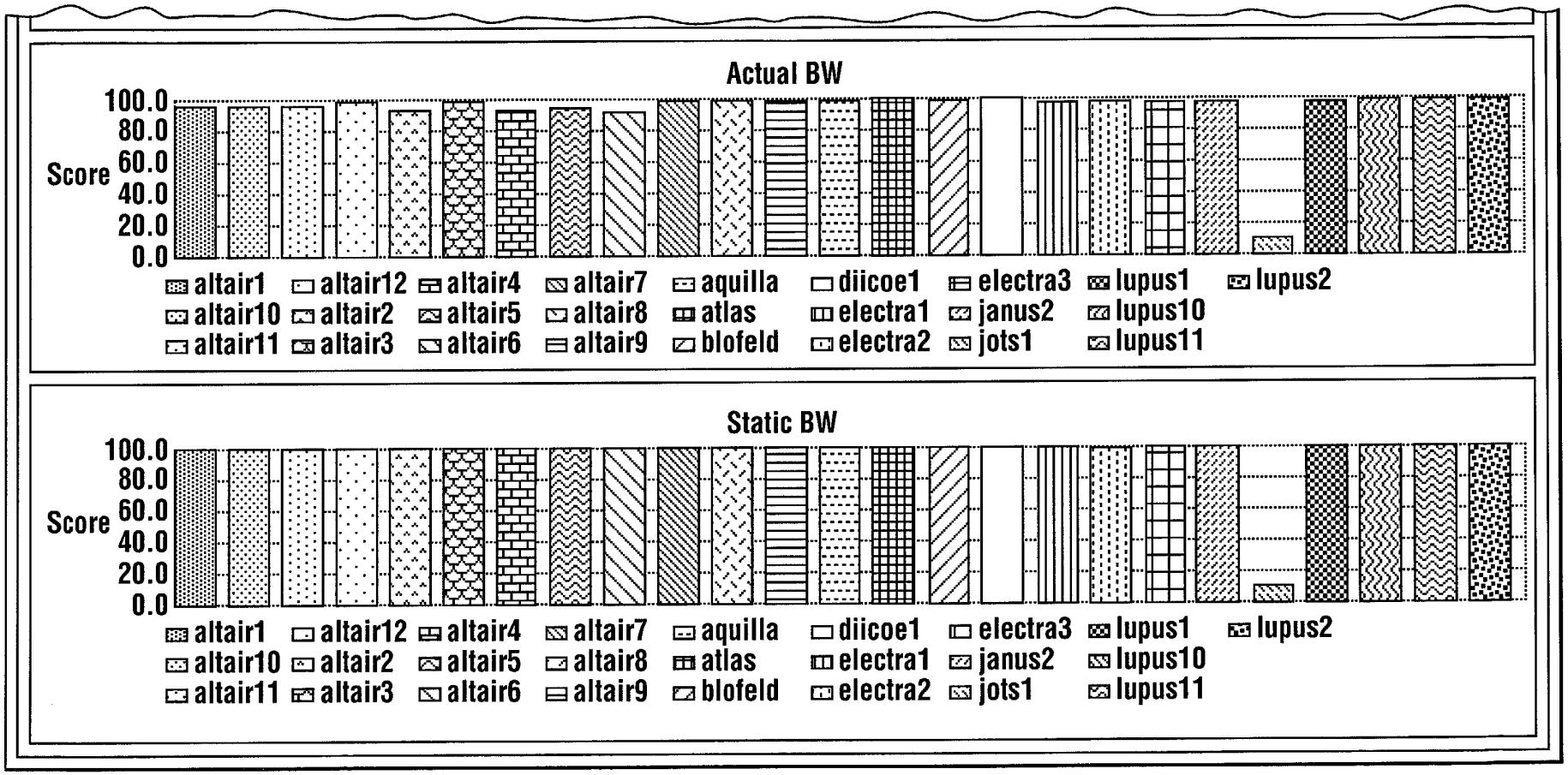
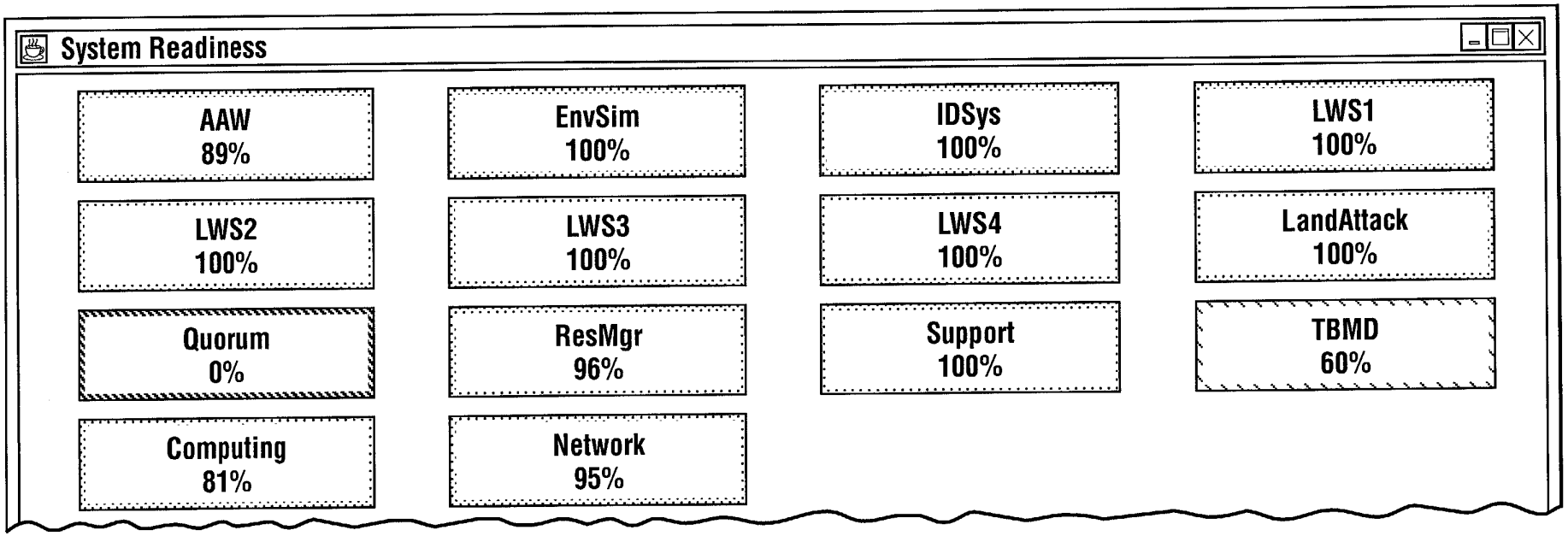

Actual BW
Score
100.0
80.0
60.0
40.0
20.0
0.0
altair1
altair12
altair4
altair7
aquilla
diicoe1
electra3
lupus1
lupus2
altair10
altair2
altair5
altair8
atlas
electra1
janus2
lupus10
altair11
altair3
altair6
altair9
blofeld
electra2
jots1
lupus11
Static BW
Score
100.0
80.0
60.0
40.0
20.0
0.0
altair1
altair12
altair4
altair7
aquilla
diicoe1
electra3
lupus1
lupus2
altair10
altair2
altair5
altair8
atlas
electra1
janus2
lupus10
altair11
altair3
altair6
altair9
blofeld
electra2
jots1
lupus11

FIG.IIB

T06T60"528h9860

FIG.12A



(SEE FIG.12B)

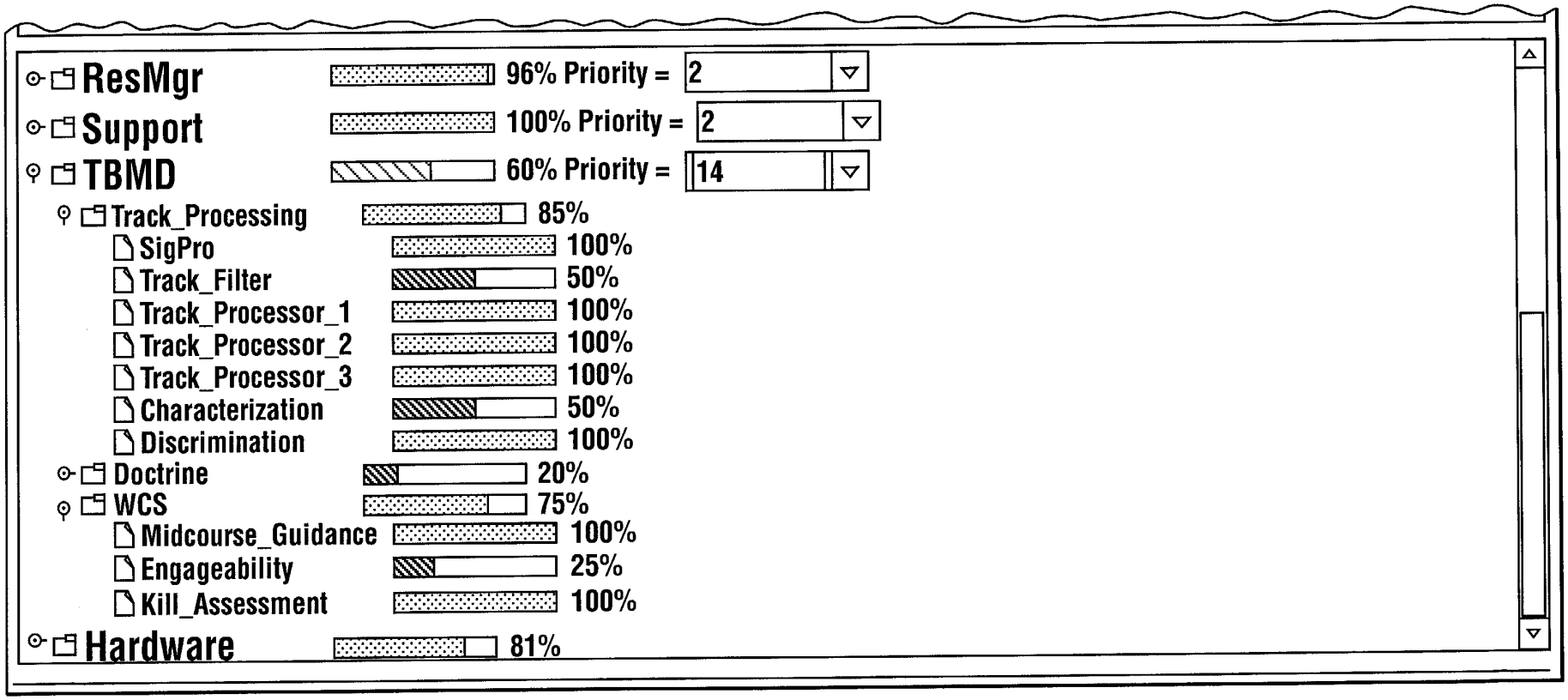

ResMgr
96% Priority = 2
Support
100% Priority = 2
TBMD
60% Priority = 14
Track_Processing 85%
SigPro 100%
Track_Filter 50%
Track_Processor_1 100%
Track_Processor_2 100%
Track_Processor_3 100%
Characterization 50%
Discrimination 100%
Doctrine 20%
WCS 75%
Midcourse_Guidance 100%
Engageability 25%
Kill_Assessment 100%
Hardware 81%

FIG.12B

FIG.13A

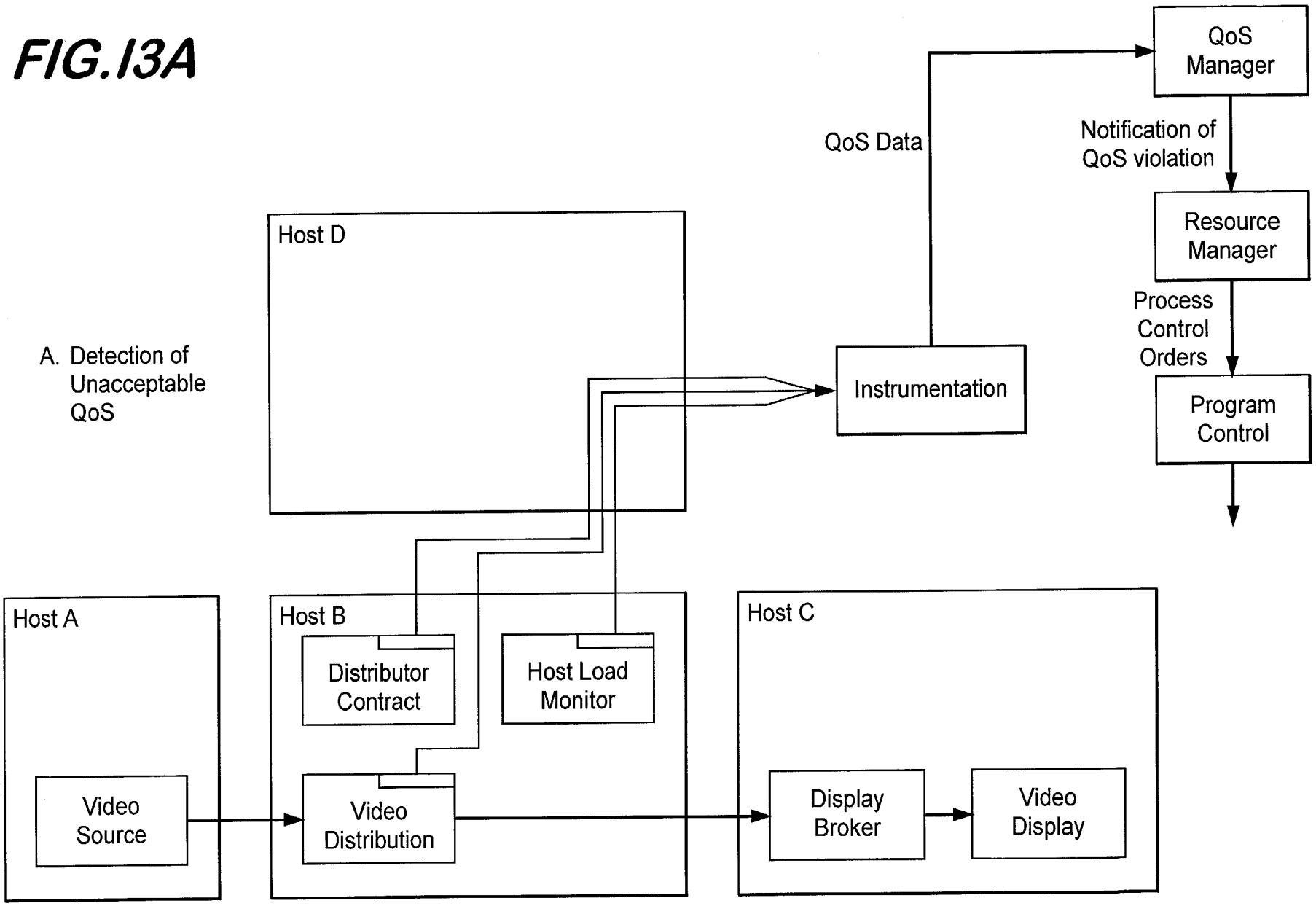
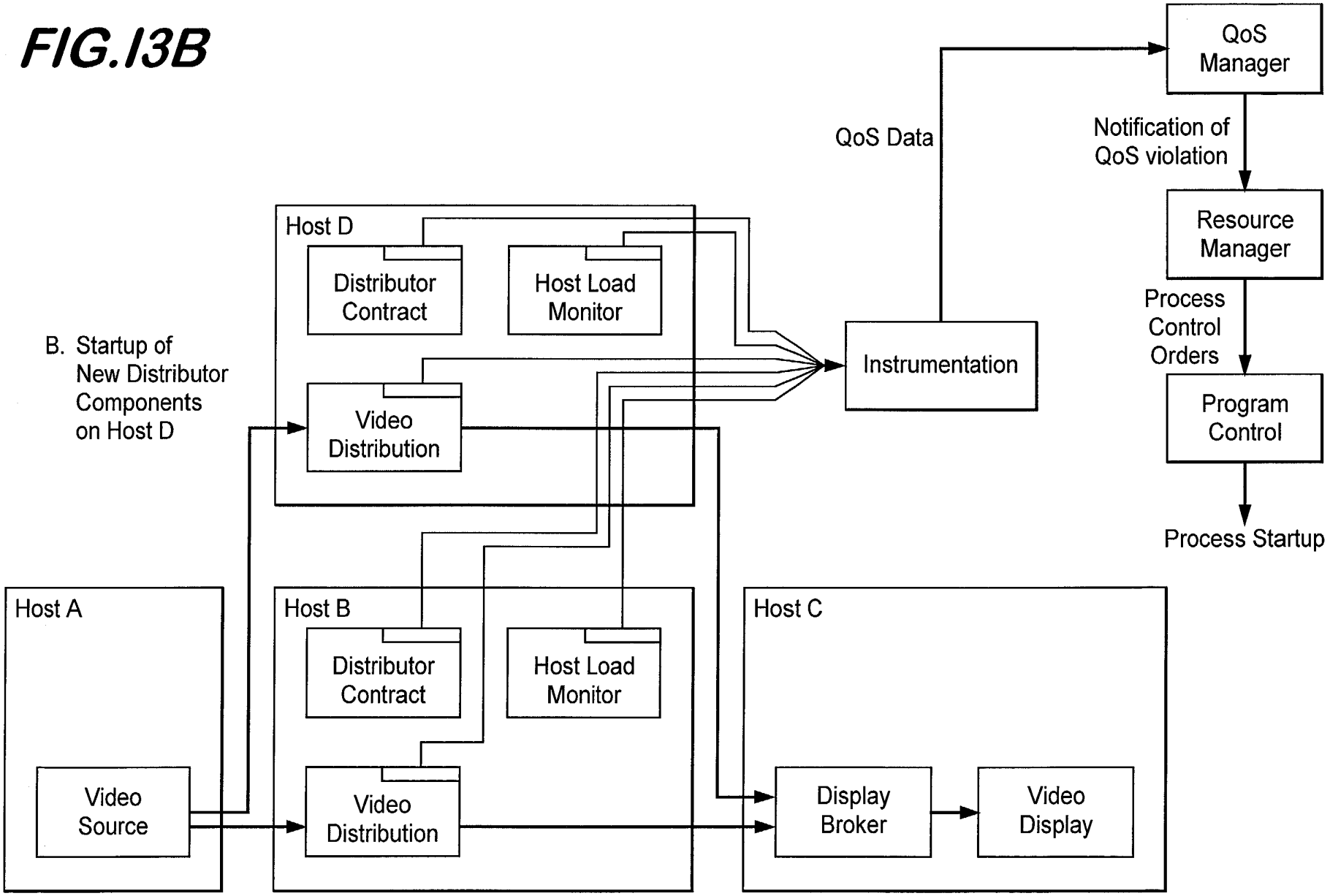

QoS Manager
Notification of QoS violation
Resource Manager
Process Control Orders
Program Control
QoS Data
A. Detection of Unacceptable QoS
Host D
Instrumentation
Host A
Host B
Host C
Distributor Contract
Host Load Monitor
Video Source
Video Distribution
Display Broker
Video Display

FIG.13B


QoS Manager
QoS Data
Notification of QoS violation
Resource Manager
Process Control Orders
Program Control
Process Startup
B. Startup of New Distributor Components on Host D
Host D
Distributor Contract
Host Load Monitor
Video Distribution
Instrumentation
Host A
Video Source
Host B
Distributor Contract
Host Load Monitor
Video Distribution
Host C
Display Broker
Video Display

T06T60" 523h9360

FIG. 13C

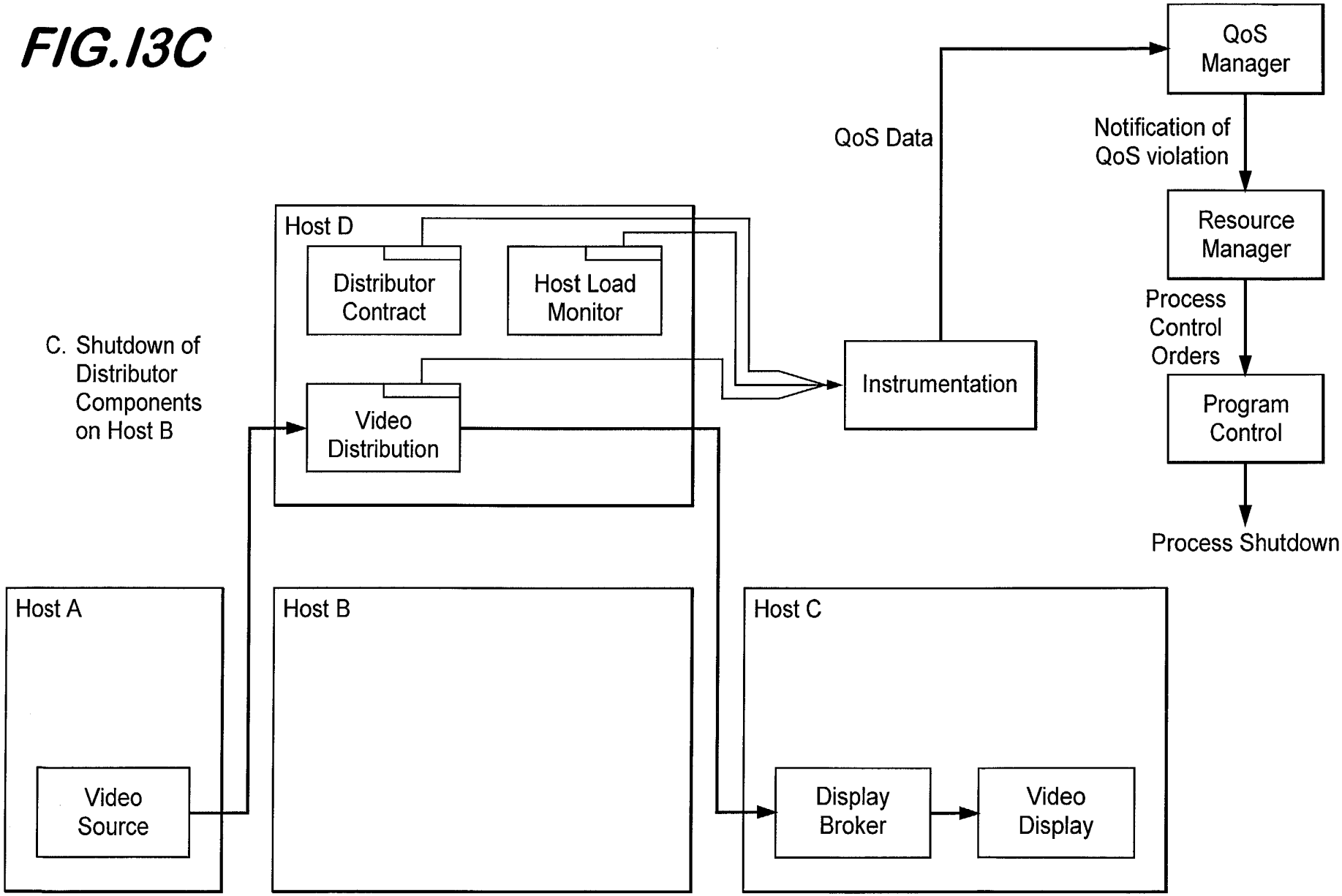


FIG.14

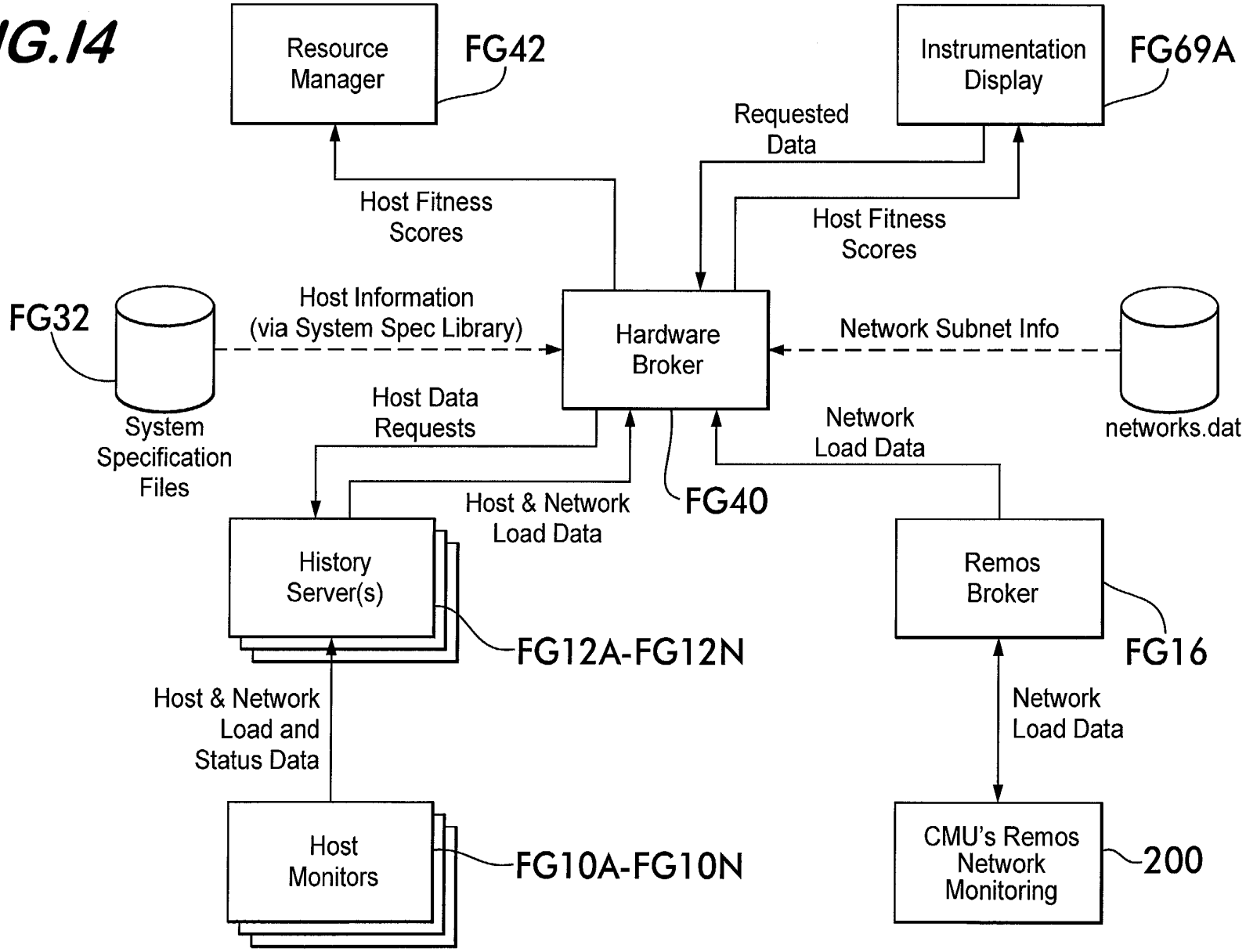
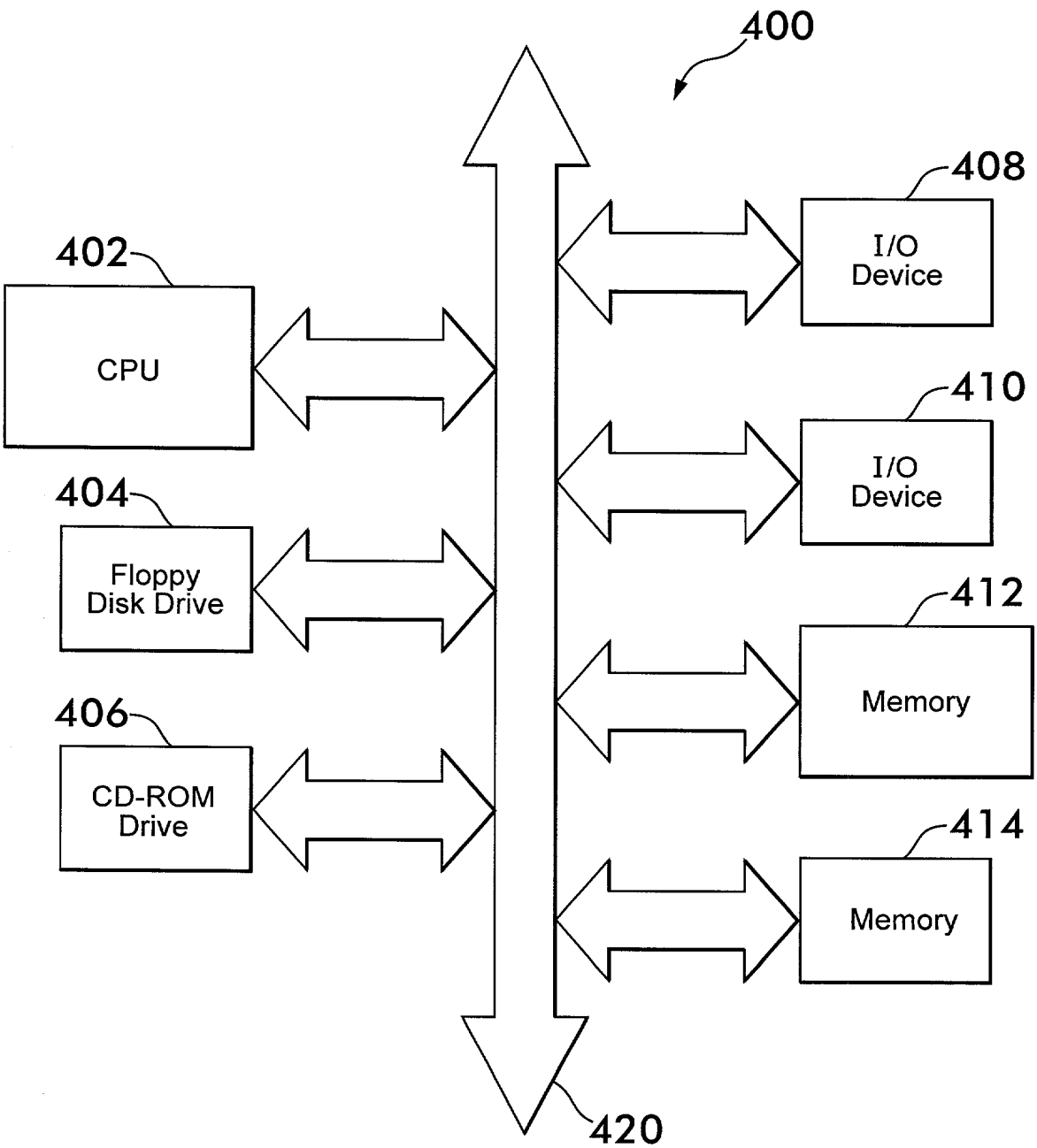

Resource Manager
FG42
Instrumentation Display
FG69A
Requested Data
Host Fitness Scores
Host Fitness Scores
FG32
Host Information (via System Spec Library)
Hardware Broker
Network Subnet Info
System Specification Files
networks.dat
Host Data Requests
Network Load Data
Host & Network Load Data
FG40
History Server(s)
Remos Broker
FG12A-FG12N
FG16
Host & Network Load and Status Data
Network Load Data
Host Monitors
FG10A-FG10N
CMU's Remos Network Monitoring
200

FIG.15


400
408
I/O Device
402
CPU
410
I/O Device
404
Floppy Disk Drive
412
Memory
406
CD-ROM Drive
414
Memory
420